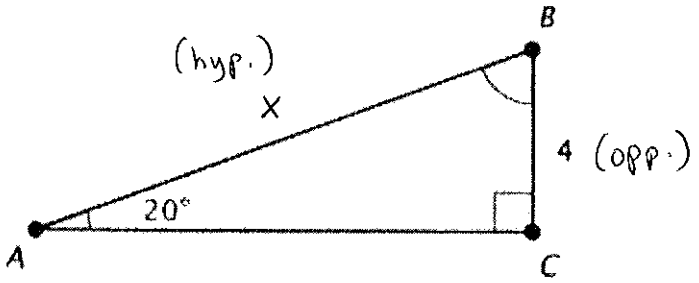
**WLPCS**
**Geometry**

$\sin\theta = \frac{opp}{hyp}$ $\cos\theta = \frac{adj}{hyp}$ $\tan\theta = \frac{opp}{adj}$

Name: _____ Date: _____ Per.: _____

**How to find the missing side lengths...**

Directions: Use the examples below to work on the back of the homework.



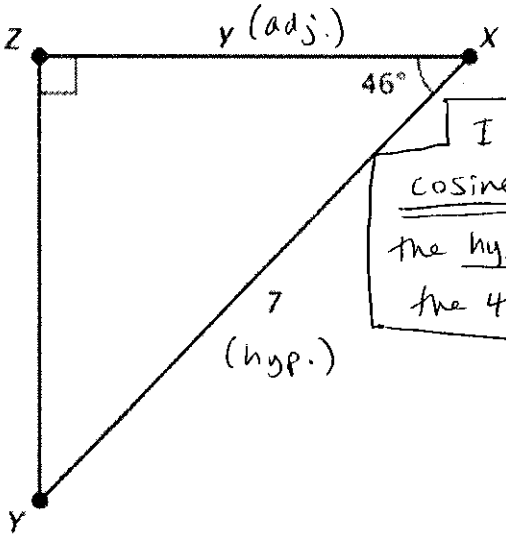

I will use sine b/c I know the side opposite the 20° angle and I want to know the hypotenuse.

$\sin 20^\circ = \frac{4}{x}$

$0.3420 = \frac{4}{x}$ ← multiply by x on both sides

$0.3420x = 4$ ← ÷ by 0.3420

$x = 11.696$

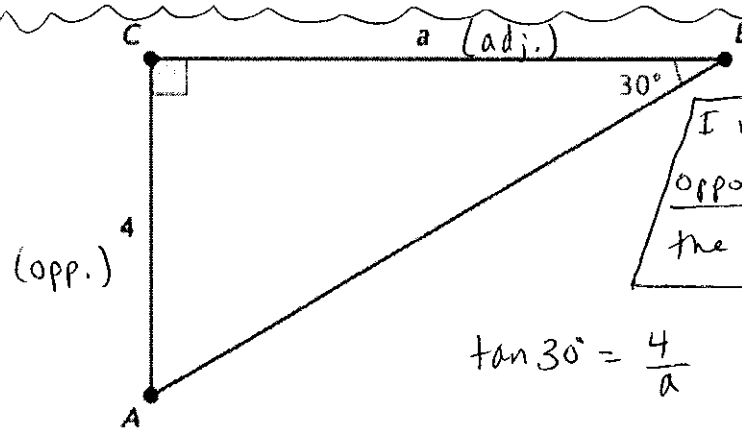



I will use cosine b/c I know the hypotenuse and I want to know the side adjacent to the 46° angle.

$\cos 46^\circ = \frac{y}{7}$

$0.6947 = \frac{y}{7}$ ← multiply by 7 on both sides

$4.8629 = y$




I will use tangent b/c I know the side opposite the 30° angle and I want to know the side adjacent to the 30° angle.

$\tan 30^\circ = \frac{4}{a}$

$a \cdot 0.5774 = \frac{4}{a} \cdot a$

$\frac{0.5774a}{0.5774} = \frac{4}{0.5774}$

$a = 6.93$